# Vishvakarma Yojana Project an Approach of Electrical Needs in the Village of Tadava and Dalvada

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## ABSTRACT

Vishwakarma Yojana for development of villages by identifying the requirements of villages. Under this project the villages are surveyed and this project was identified and selected for implementation. Rurbanization is to bring peace of mind to the villagers by providing them the basic amenities required and still keeping the village's oulintact. This project gives one new idea for Development of rural villages. Also gives procedure how they fulfill requirement of the villages. Now a day people are moving from rural to urban are due to lack of basic amenities. With the help of this Yojana we can bring awareness about the thing which are not available at rural areas. So this help to provide better solution for the available problems in rural area like drinking water, Drainage facility, road network .The aim of the project is "Developing village with a 'rural soul' but with all urban amenities that a city may have". In Gujarat state for the development rural area considering the basic Physical infrastructure facilities like sewerage system, water supply, village roads, network of electricity, sewage disposal system & other.

*KEYWORDS: Rural development, Reduce urban city, Lower the migration rate, Urban amenities, infrastructure planning Solar Yojana etc*

## INTRODUCTION

India lives in its villages, and while the cities have grown immensely over the last 20 years, rural economy needs to grow. Rural areas are still plagued by problems of, illiteracy, unemployment and lack of basic infrastructure like schools, colleges, hospitals, sanitation, etc This has led to youth moving out of villages to work in cities. Our villages need to grow in tandem with cities and standard of life has to improve there for inclusive growth to happen. India lives in many generations, and visiting rural areas very easily shows that they lag behind cities. They need to have infrastructure like electricity and water etc. We need to give them self-employment so that they want to stay in villages instead of migrating in cities.

*Vishwakarma Yojna is one of the important and prestigious project ofGovernment ofGujarat with aim to Development of the villages of Gujarat. Vishwakarma Yojana to provide the benefit of real world experience and simultaneously apply technical knowledge in the development of rural infrastructure planning & management by students of Gujarat Technological University.*

### Introduction about Village

Tadava village is located in shehra taluka, Panchmahal district. It is 8 KM away from Shehra And It is located 15 KM from Godhra. The pin code of Tadava village is 389210.

Dalvada village is located in shehra taluka, Panchmahal district. It is 8 KM away from Shehra And It is located 17 KM from Godhra. The pin code of Dalvada village is 389210.

The population of the Tadava village is 4091, with 800houses. The main occupation of the people living in this village is agriculture and most of their land is also due to agriculture. Most of the population in this village is uneducated as well as using mostly old system for farming. Talking about the infrastructure facilities available in the village, primary-secondary school, library, gram panchayat, Anganwadi, community hall, PHC center, wells and bore wells

have been constructed by the government to provide drinking water to the villagers. But most of the roads in the village are unpaved, proper drainage system, 24x 7 hours electricity, insufficient water for irrigation, post office, bus stop etc. facilities are not in the village.

Dalvada is a village in shehra taluka of Panchmahal district in the Indian state of Gujarat. It is 8 km from the city. Dalvada village is managed by an elected sarpanch every five years. According to the 2011 census of India, the population of Dalvada village is 4721. The number of houses in Tadava village is 883. The main occupation of the people living in this village is agriculture and animal husbandry. The village has wells, taps, hand pumps and bore wells for drinking water but the village does not have facilities like irrigation, post office, bus stop, proper sewerage system.

## STUDY OF THE AREA:
## INTRODUCTION of Tadava village:
- Village Name: Tadava
- Taluka: shehra
- District: Panchmahal
- State: Gujarat
- Pincode: 389210.
- Area: 906.29 hectares
- Population: 4091
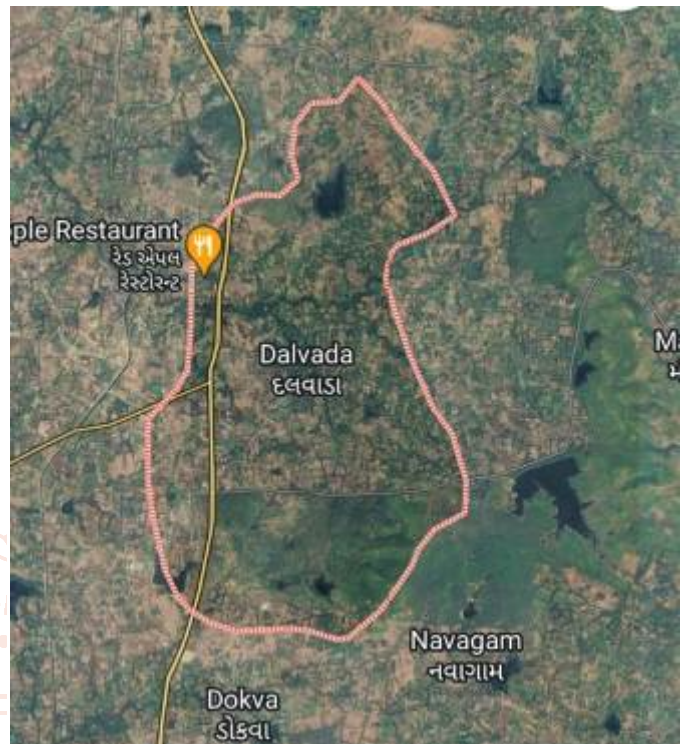- Households: 800
- Nearest Town: Godhra



(Mape of Tadava village)

## INTRODUCTION of Dalvada village:
- Village Name: Dalvada
- Taluka: shehra
- District: Panchmahal
- State: Gujarat
- Pincode: 389210.
- Population: 4721
- Households: 883
- Nearest Town: Godhra



(Mape of Dalvada village)

## NEED OF THE STUDY:
- To know the current development going on in village.
- To know the problems which villagers are facing.
- To provide basic and sustainable facilities to rural area to reduce the pressure on urban areas.
- To improve the living standard of rural people by providing facilities and better Infrastructure.

## ELECTRICAL CONCEPT:
India is one of the largest countries in the world, where the people's occupation is predominantly agriculture and most of the population lives in villages. Many of these villages are remotely located and their connectivity with the grid is very difficult resulting in their being not electrified at all or lack of continuous supply. For the development of the region, there is every need to utilize energy efficient techniques and potential of available renewable energy resources. Renewable energy is energy generated from natural resources such as sunlight, wind, rain, tides and geothermal heat which are renewable. Renewable energy is energy that is generated from natural processes that are continuously replenished.

## PROPOSED DESIGNS:

| Proposed Designs | |
| --- | --- |
| 1.GSM based Greenhouse Environment Monitoring and Controlling | 4. Controlling of agriculture motor with water level using GSM and Arduino Nano |
| 2. Smart Dustbin Using Arduino | 5. Electronic Water Level Controller System |
| 3. Automated farm protection using PIC & GSM | 6.GREEN HOUSE MONITORING AND CONTROLING SYSTEM USING ARDUINO |

**Reason for Students Recommending this Design:-**

1. **GSM based Greenhouse Environment Monitoring and Controlling**
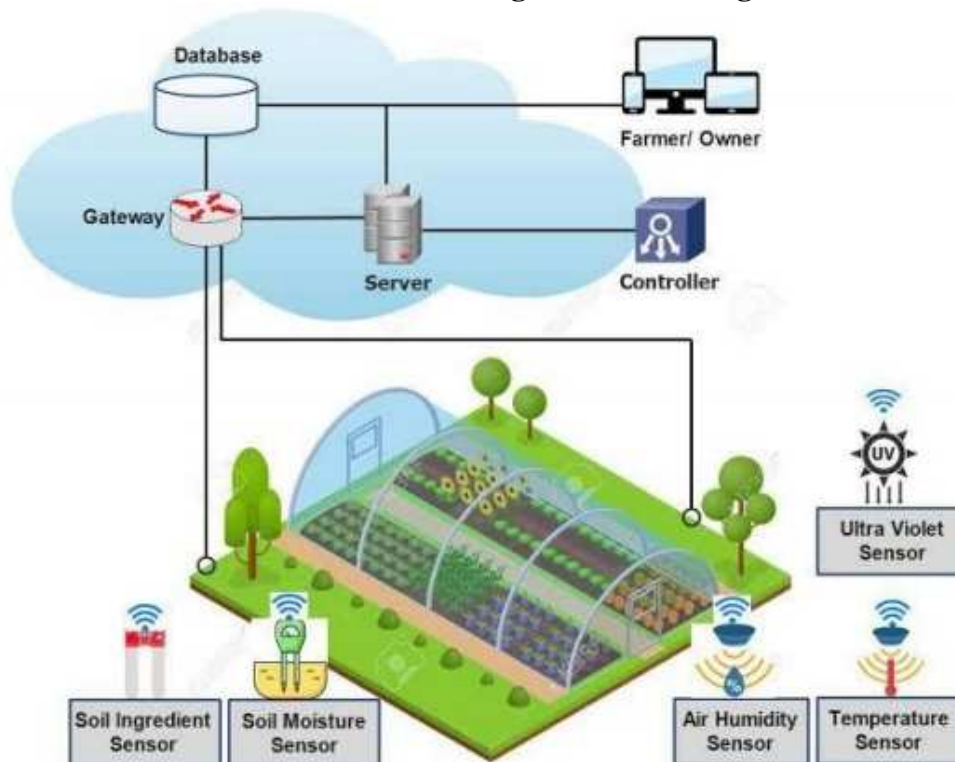


**(3D design of GSM based Greenhouse Environment Monitoring and Controlling)**

Greenhouse monitoring and control system mainly includes greenhouse remote monitoring and control software and greenhouse data acquisition controller. Greenhouse data acquisition controller is mainly composed of a Sigsbee wireless acquisition module, CO2 sensor, soil moisture sensor, air temperature and humidity sensor. GSM based Greenhouse Environment Monitoring and Controlling is an advanced farming technique. This project can be used in the Greenhouse to monitor and control various parameters like Humidity, Temperature, Light, and Soil Moisture. These parameters are controlled with the help of Relays and DC motors.

2. **Smart Dustbin Using Arduino**
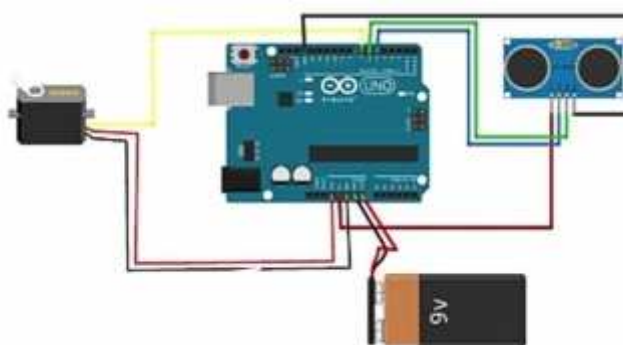


**(Smart Dustbin Using Arduino)**

The smart dust bin, powered by Arduino, is equipped with sensors to identify objects in close proximity. A signal is then transmitted to a servo motor, which unhinges the lid. The motor is programmed to shut the lid after a certain duration. Smart bin not only makes waste collection and handling extremely convenient but also helps in maintaining a garbage-free and sustainable environment for the public. The system of waste collection and the optimized route offered by smart bins eliminate the risk of overflowing along with minimizing the CO2 emission

## 3. Automated farm protection using PIC & GSM
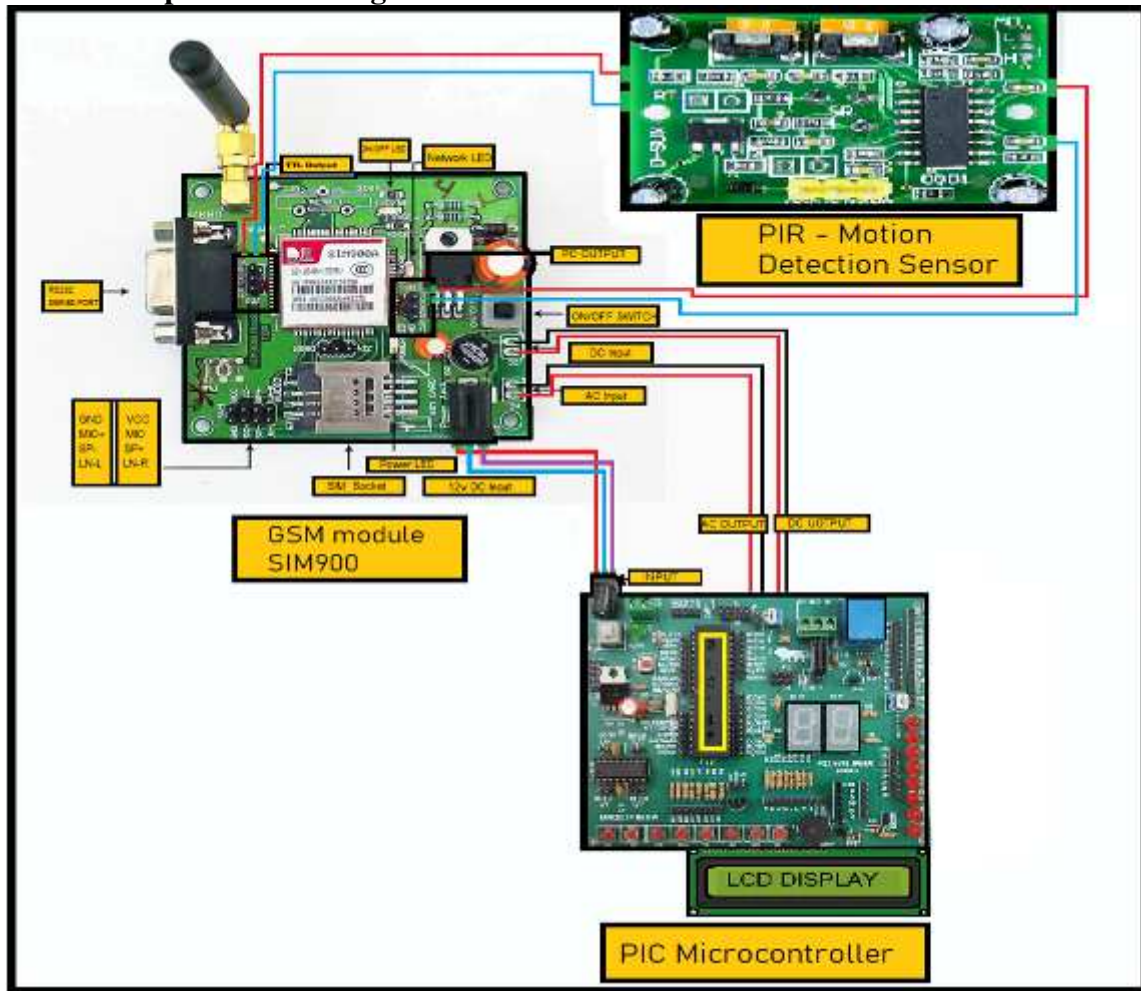


**(Design of Automated farm protection using PIC & GSM)**

Farm automation practices can make agriculture more profitable while also reducing the ecological footprint of farming at the same time. Site-specific application software can reduce the amount of pesticides and fertilizer used while also reducing greenhouse gas emissions.

## 4. Controlling of agriculture motor with water level using GSM and Arduino Nano
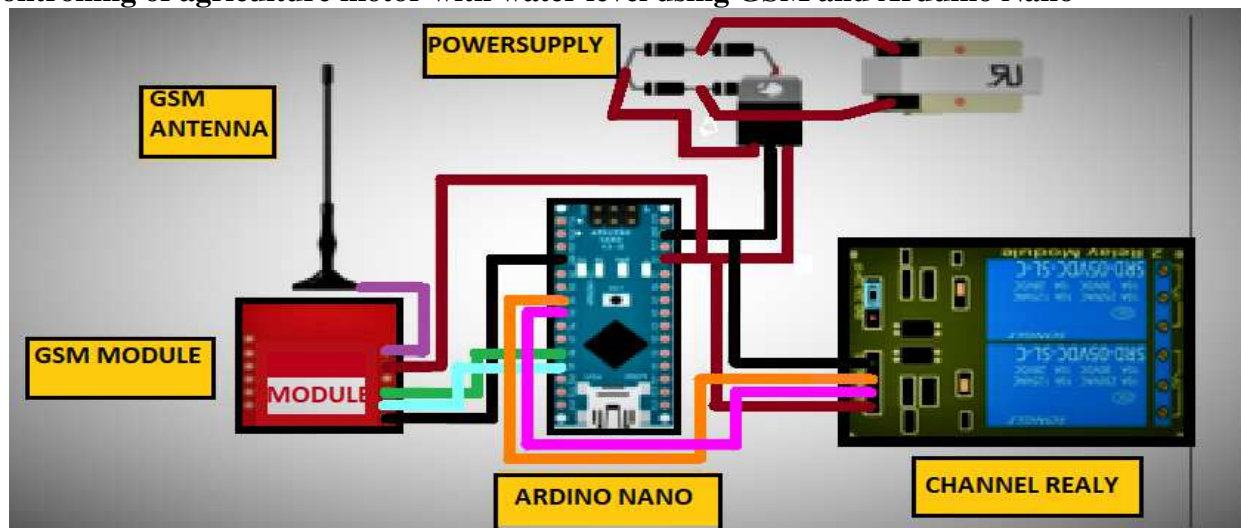


**(Design of Controlling of agriculture motor with water level using GSM and Arduino Nano)**

Water pump gets automatically off when system finds enough moisture in the soil. Whenever system switched On or off the pump, a message is sent to the user via GSM module, updating the status of water pump and soil moisture. This system is very useful in Farms, gardens, home. Efficient water usage – Automatic irrigation systems use sensors and technology to accurately measure and distribute water, reducing water waste and ensuring plants receive the right amount of water they need. This design is very useful for farmers in agriculture purpose.

## 5. Electronic Water Level Controller System
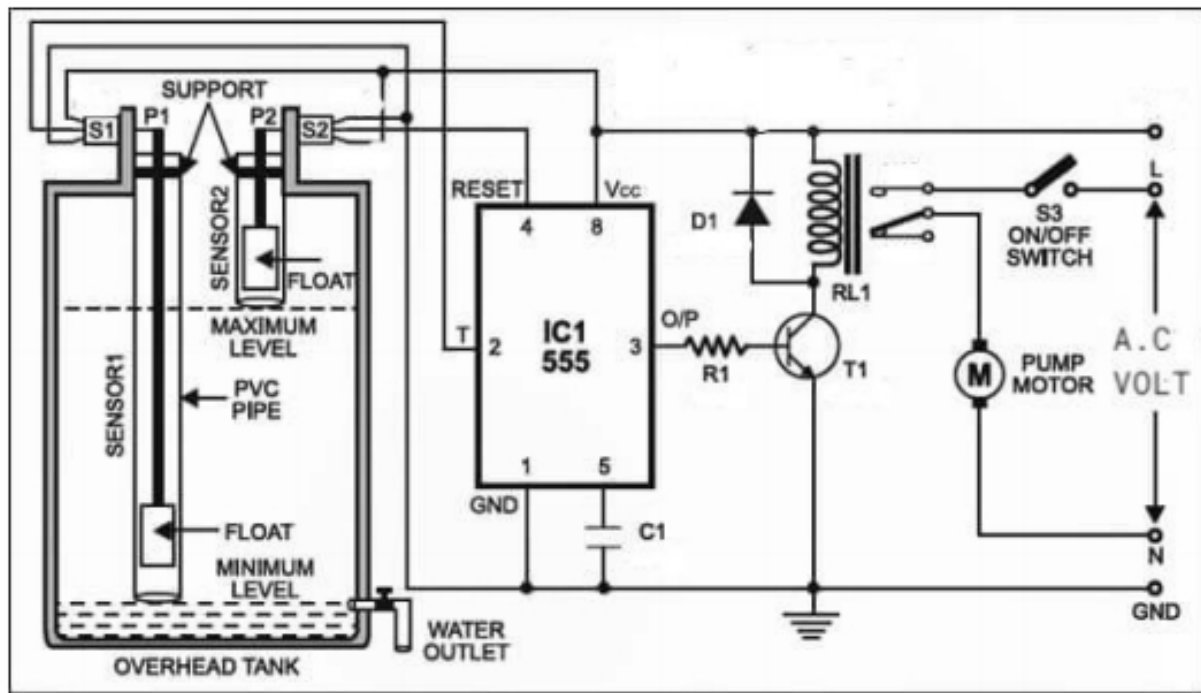


(Design of Electronic Water Level Controller System)

Water level controllers that automatically adjust the water level save energy. They do it by automatically turning off the motor when the tank is full and when there is no water flow to the tank. This means that less water and energy are utilized to control a water supply. Level controllers monitor, regulate, and control liquid or solid levels in a process. Level controllers receive input from a level-sensing device and respond accordingly based on the device and user specifications.

## 6. GREEN HOUSE MONITORING AND CONTROLING SYSTEM USING ARDUINO
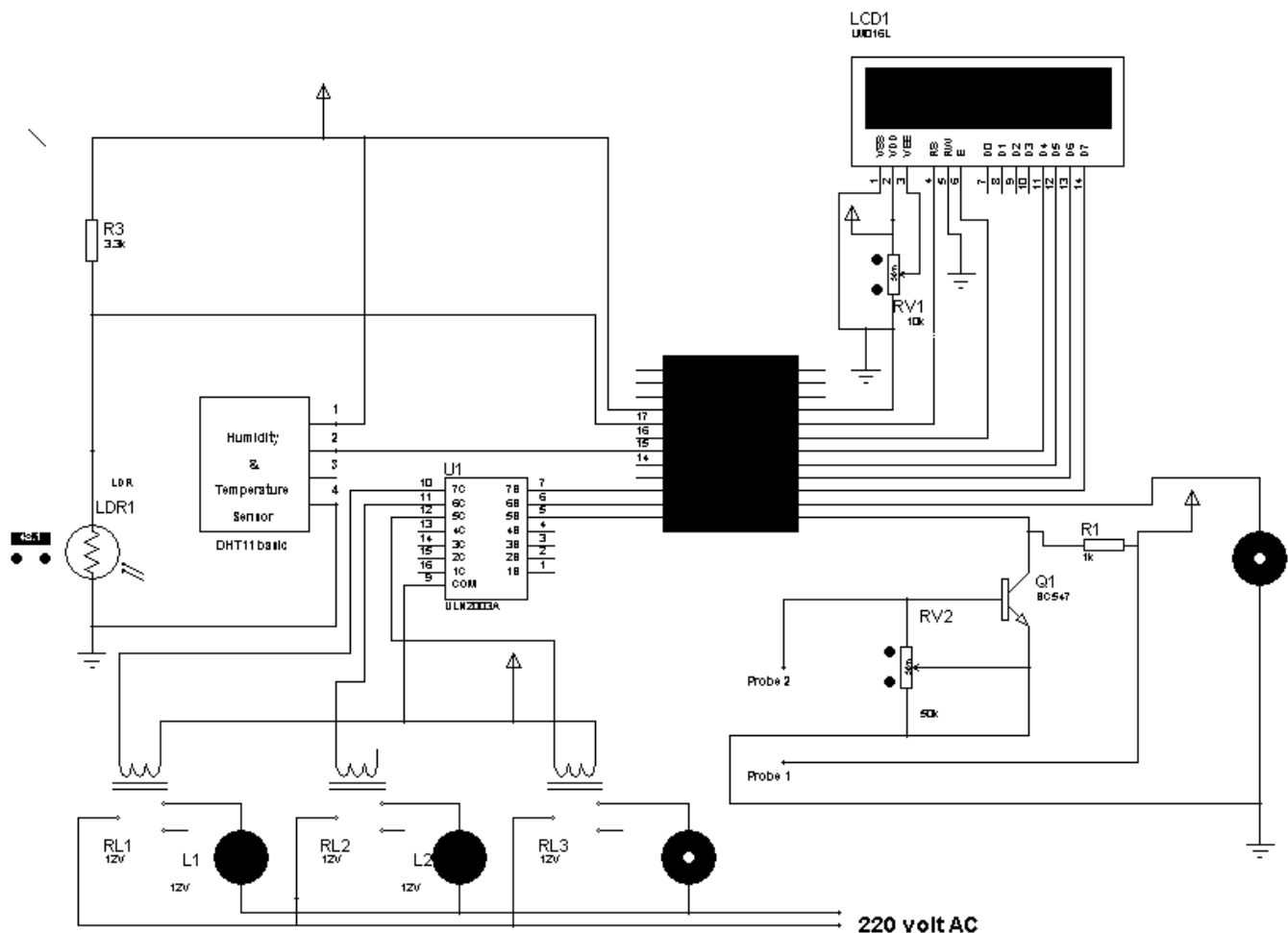


(Design of GREEN HOUSE MONITORING AND CONTROLING SYSTEM USING ARDUINO)

In today's greenhouses, many parameter measurements are required to monitor and control for the good quality and productivity of plants. But to get the desired results there are some very important factors which come into play like Temperature, Humidity, Light and Water, which are necessary for a better plant growth. Keeping these parameters in mind I have built an Automatic Green House Controlling and Monitoring System over GSM module using Arduino. This system is very efficient for growing good quality plants. The other important part of this project is that it is fully automatic. Arduino automatically turns on and turns off the appliances.

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